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The Texture of Knowledge: An Essay on Religion and Science. By JAMES W. JONES.
Washington: University Press of America, 1981. 97 pages. \$7.00 (paper).

This is a finely and tightly woven essay about the unweaving of hard and fast claims in both science and religion. James W. Jones advocates what he calls an open texture in both fields. In the opening chapter he pleads for epistemic humility, showing how scientific theories are narrower in scope and religious assertions more human in their origins than their makers like to admit. Subsequent chapters are summaries of three leading philosophies of science, with a concluding section applying the results to religion. Michael Polanyi teaches us how scientific knowledge has an inevitable personal coefficient. Stephen Toulmin teaches how it is functional, and Thomas Kuhn discovers the importance of the paradigm shared by a community. The general effect of these chapters is to amplify the subjective element in science and to show that science is more like religion, and religion more like science, than many realize. Genuine objectivity in science is unattainable in principle and in practice; we cannot go beyond intersubjectivity. The prominent philosopher of science missing in these pages is Karl Popper, who would have served as a corrective to some of the emphases here.

In the closing chapters Jones tries to check the relativism into which he has steadily been trending. His solution is what he calls "critical relativism" (p. 68). When faced with competing claims within the sciences, among the religions, or across science and religion, what are we to make of them? Reasons hold best within systems, where argument is embedded in a paradigmatic viewpoint. Rival theories may have a shared context, sometimes more so, sometimes less. But when we try to talk further across our systems, the reasons we give grow looser and weaker. They increasingly fail to convince others, although to some extent there are upper level criteria (coherence, simplicity, scope, elegance) which are transsystemic. Nevertheless, enough discussion is possible to enable us to do some judging between systems.

Jones twists and turns to try to give reasoning some power, while recognizing how everyone is caught within his or her own viewpoint. He thinks we can recognize the integrity of the differing systems, so long as each is kept in its own orbit. Both science and religion thus attain a certain integrity. But both are kept relative, not absolute. The reasons we give for beliefs can be good ones, only our conclusions are more contextual and parochial than we want to

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suppose. We see it our way, correctly so if we are critical enough, but this is at best only one true way among many others possible.

It is tempting for the reader to think that critical relativism must be some near equivalent to critical realism, a more usual term in accounts of this sort. The latter is the notion that by criticism of competing theories we can steadily approximate the objective truth. Reality will always be symbolically mediated but it will be represented by better and better symbols. Jones does want his science to be about the world. We are warned not to conclude that "science . . . does not know the world at all" (p. 66). "Critical relativism would not . . . deny that science represents the world" (p. 73). But Jones finds it difficult to promise much here. Good theories "fit the facts" (p. 88). However, each fit is slanted by its social functioning and the ways we employ it, and so theory is only functionally and relatively justified, never more. We are not permitted any checking against the world except in communal goal-oriented contexts. There is no pure science, since any picture we get is true, at best, in some narrowed sense, distorted by our selective cutting. We have no truth for truth's sake, only truths for use's sake.

Jones almost entirely vitiates our power to check theory against the world, even in science, much less in religion. Regardless of his hope for a representational science, when Jones comes to verifying theories, he holds to his functionalism and remains to the end shy of any correspondence of theory with the world. "Why are theories adopted if it is not because they are about the world? . . . Certain conceptions and not others are adopted because they fulfill the goals of the community one is working in. . . . Knowledge is adjudicated not on the basis of its correspondence with the bare world but on how well it does the job the knower and his community want done" (p. 88).

Jones's job is well done, but alas, the banished question—why, if not about the world?—returns for this reviewer, who does not operate with so intense a functionalism. To be sure, following Polanyi, scientific knowledge has a personal coefficient. But what do its main terms measure? They measure the world! To be sure, following Toulmin, scientific theories function in getting jobs done. But why do some function better than others? One good reason, often foremost among others, is that they better represent the world. To be sure, following Kuhn, there are paradigmatic switches and we adjudicate them intersubjectively. But we think by this to map the world better, and we demand critical intersubjectivity because we hope, where raw objectivity is not possible, that critical intersubjectivity will get us nearer to it than anything else. Religion too longs for its creeds to describe the realities it confesses. Whatever the personal coefficient, the functioning, or the community support, what we really hope for is truth about what is ultimately there, however much we also realize this truth is partial and mediated by the eyeglasses we are wearing.

Jones is needlessly overcome with how data are theory laden. "We have no immediate access to 'Data' to compare it with 'Theory.' Any experience, any formulation, any examination of the 'Data' in order to compare with the 'Theory' is in terms of some (other) theory, some gestalt, some prior conceptual apparatus." "In testing theories we are not testing the theory against the data" (pp. 86-87). It is quite true that data are routinely theory laden, that is, we hunt for data armed with certain theories. But it does not follow that data obtained so cannot be compared with the theory. A given theory can imply certain data, which may or may not be observed. Operating within a theory we can get agreeable or disagreeable data. Anomalies, which Jones often mentions, just are data that do not fit the theory. The paradigm creates and

locates the anomaly, but it is also put in question by it. We have ways of protecting the theory, of course, and the bigger the theory the more insulated it is from a local bit of data. "We have no immediate access to data." If Jones loads his term "immediate" enough, he can hold on to the first part of his claim. But the result is not that we are never "testing the theory against the data." More is involved, but this too is involved (as we might have learned from Popper). A theory can be tested against data in significant and telling ways, although not absolutely against raw data. Such checking can be done with or without rival theories on the horizon.

However, the criticisms registered here are an oblique form of praise. This is a thoughtful essay, and readers will find it stimulating.

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